The next Annual Meeting of the Michigan State Medical Society will be held in Detroit, June 11th and 12th, 1903

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PRESIDENT'S ADDRESS.

THE MICHIGAN MEDICAL SOCIETY.

It's First Eigthy-three Years—Present Wants, and Suggestions for their Supply.*

LEARTUS CONNOR,
Detroit, Mich.

PART I.

A year since you selected me for certain responsibilities and special work. 'Tis too much to hope that your expectations have been fully met, but you have had my constant thought, best judgment and unwearied service.

On a beautiful October day your representative laid the corner stone of the new Science Building of the Medical Department, University of Michigan—an epoch in the life of Michigan's first medical school, by which it can better train those who shall fill our future ranks, add new resources to our science, and augment the State's reputation in the scientific world.

Realizing that you desired an increase of members and more local societies, your president and efficient secretary did what was possible to promote both objects.

Last year the American Medical Association radically changed its organization, by placing all legislative and executive power with delegates from State societies and the sections—in all one hundred and fifty. The rest of the association receive the JOURNAL (if they pay five dollars annually), take part in the scientific and social work, and listen to the addresses.

In common with other states, Michigan is asked by the American Medical Association to divide its membership in like manner; a house of delegates from the county societies and councilors for legislative and executive duty; the remainder for scientific and social purposes.

To study exhaustively these radical changes and wisely advise the proper ac-

Read at the Meeting of the Michigan State Medical Society, held at Port Huron, June 26 and 27, 1902

tion, the president appointed a committee, consisting of Drs. A. E. Bulson, of Jackson, George Dock, of Ann Arbor, and Charles T. McClintock, of Detroit. Its report and that of our members of the house of delegates, American Medical Association, follow this paper, and conclude the formal presentation of the subject of our reorganization.

Standing at the close of eighty-three years with a new life more complex and highly organized than any we have known, it is pertinent to inquire: "What light does our past shed upon the future?"

Organized at Detroit under territorial law, August 10th, 1819, the Michigan Medical Society has had but two breaks in its continuous operation, viz: from 1851 to 1853, and from 1860 to 1866. Its name has varied slightly during these three periods, but it has been, under all conditions, the Michigan Medical Society.

It was one of many events that marked the origin of Michigan as an American community, based upon the permanent resources of its own industries, in spite of the planting of a colony by Cadillac on the shores of the Detroit river one hundred and twenty years previous. Others were: the first move to establish Michigan University; the first sales of land by the United States; the opening of roads towards Saginaw, Chicago, Grand River, Fort Gratiot, and the removal of the stockade about Detroit.

The moving spirit in the formation of the Michigan Medical Society was Dr. John L. Whiting—a type of the doctors who laid the foundations of our Michigan Medical Temple amid primeval forests. Born November 28th, 1793, at Canaan, N. Y., of parents who had emigrated from Norwich, Conn., he received his preliminary training at Lebanon, N. Y., and Lenox, Mass. Thereafter for three years he studied medicine with Dr. Samuel White, of Hudson, N. Y., and was licensed by the State of New York. Turning his face westward he reached Detroit on horseback, February 26th, 1817. Endowed with great physical and mental vigor, he soon secured a large practice and commanding social influence. Conversant with the New York medical laws,* and believing them adapted to the needs of the territory, in 1819 he began the formation of a medical society among the few scattered physicians of the territory (Schoolcraft says there were but eight physicians in Detroit). Changing the New York medical laws to the new conditions, himself and friends readily secured the assent of the government as embodied in Governor Lewis Cass, Judges A. B. Woodward and John Griffin—a task made easy by the fact that these men were conversant with similar laws existing in the older states whence they had come. Whiting served long as secretary, and then as president.

Unfortunately for the medical profession, in 1832 he left it to engage with John J. Deming in the commission and forwarding business. In 1842 he became a land tax agent. Dr. Brodie said that this change was induced by the unexpected deaths of three successive cases—an event often recorded in medical annals. Dr. Whiting was ever ready in times of emergency, as in the cholera epidemics of 1832 and later, to throw aside his business and assist his professional brethren, till the crisis had passed. He died full of honor, aged eighty-seven, leaving num-

*Dr. W. W. Potter (Buffalo, N. Y.) says N. Y. State Med. Society originated in action taken by physicians in and about Saratoga, N. Y., in 1805.

erous descendants, always in the front of the hosts advancing Michigan's progress.

To grasp the far-reaching influence of this first Michigan Medical Society, it is needful to keep in mind the salient features of the physical, political, religious, social, business, and scientific conditions of 1819 in Michigan. At that date it was a French Arcadia, as described by Longfellow; an immense forest of giant trees, interspersed by silver lakes and oak openings, cleared only for a few rods along the larger rivers. Vast undrained areas were breeding places for the malarial fevers and culture beds for visiting morbid germs, as cholera, typhoid, and typhus.

Its inhabitants were mainly of the Roman Catholic faith, born and nurtured under the despotic idea of the French and British kings of that day—and so unfavorable to general education or the exercise of individual liberty.

Relations with the outside world were difficult, dangerous and expensive. Mails from Ohio were brought on horseback as late as 1826, and postage increased with the length of the route.

Trading in furs was the chief source of wealth; fishing, hunting and light farming added something to means of subsistence.

Lives of doctors were full of adventure and hardship from hostile Indians, absence of roads, the presence of deep, thick mud, and long trips incident to the sparse population. Calls to places as distant as Tecumseh from Detroit were not infrequent, occupying two days and a night, either going or coming; the night being spent on the ground rolled in a blanket, subject to calls from wolves or other uncanny natives; the Indian trail, their only guide through the dense forests. Because of scanty pay for professional work, most, if not all doctors, were compelled to engage in some outside occupation—as the keeping of a drug store, or agent for articles of general merchandise. From such sources have sprung not a few of the large commercial houses or factories of modern Michigan.

His superior education and gentlemanly manners gave the doctor high social position and great influence in all public affairs. Thus in 1842 Drs. Zina Pitcher and Douglas Houghton, aided by Samuel Barstow, were most active in promoting the act by which Michigan established the first absolutely free system of popular education. Drs. Sager, Pitcher, and Houghton, with other doctors, were active in the steps that led to the growth of the University. Pitcher was long one of its regents; later, in an editorial in the *Peninsular Journal of Medicine,* he expressed regret that he had not held out for a nine months' course at the opening of the Medical Department, and an entrance examination equal to the literary. Both Drs. Marshall Chapin and Zina Pitcher served as mayors of Detroit and were influential in developing health interests of the city.

The leaders were picked from the best stock of New England and New York and Pennsylvania—their deeds would fill a library, and those of their descendents are a solid part of Michigan's history.

Since the chemistry of 1819 was extremely crude, and pharmacy still more, it is evident that doctors were compelled to administer remedies not always concentrated or agreeable. They lived and died in ignorance of the delight in prescribing nastiness coated with sugar or gelatine; or the satisfaction of using remedies as exact in power and definite in operating as the surgeon's knife.

Measured by present standards, neither anatomy, physiology or pathology were very helpful. Without anæsthetics, bacteriology, aseptic surgery, with imperfect appliances of all kinds, without antitoxine, the doctor of 1819 needed the best brain capacity and closest attention to details to secure satisfactory results. Since his senses were compelled to act as substitutes for the thermometer, the sphymograph, the ophthalmoscope and all other scopes, 'tis little wonder that they became wonderfully acute and that his experience added much to the doctor's practical value. Such was the house in which was born the first Michigan Medical Society. The leading features of its constitution:

1. It was a legal document, and the Society represented the Government of the Territory.

2. It prescribed the conditions for beginning the study of medicine.

3. It determined the fitness of those seeking a license to practice.

4. It formulated the offenses for which licenses were revoked.

5. It had power to execute these provisions—in short, the Society was legislative, executive, and judiciary, with police power to make all effective.

The qualifications demanded of those desiring to begin the study of medicine are stated in the Incorporating Act, By-Law 9. "The President, Senior Censor and Secretary shall form a Board to examine students in the preparatory branches of education, and give a certificate, previous to their entering upon the study of medicine. They shall meet on the second Monday of January and June, respectively. They shall keep minutes of their proceedings and lay them before the Society semi-annually. If the student has had a collegiate or academic education, his moral character only shall be the subject for their examination. This certificate shall permit him to study with any member of the Society."

Otherwise, by specific vote, the secretary granted permission to members to take as students those with known fitness to begin the study of medicine. Thus we read in the proceedings that on June 14th, 1825, Dr. Ezra S. Parke (father of the late Mr. H. C. Parke, of Parke, Davis & Co.) was granted permission to take as a student Mr. L. B. Webster. This care for the preliminary training of perspective medical students is worthy of being copied now and evermore. One is startled to contemplate the high standing of the profession had this example of the early days of our Society become universal and continuous.

Respecting the conditions for granting licenses, By-Law 18 says: "Candidates for license to practice medicine or surgery shall give notice thereof to the President and Censors fifteen days previous to examination, and before anyone can be admitted to examination he must present to the Censors satisfactory proof that he is twenty-one years old, of good moral character, has studied the time required by law with one or more reputable practitioners, and that he has appropriated the time solely to the study of medicine and surgery. If he be a candidate for a license to practice physic, he shall be examined on materia medica, pharmacy, anatomy, physiology, and theory and practice of medicine; candidates for the practice of surgery shall be particularly examined on anatomy and surgery." Further, By-Law 19 says: "When a candidate shall obtain his certificate, signed by a majority of Censors, he shall present the same to the President, who shall direct him to de-

liver an inaugural address on some medical or chirurgical subject before the Society at its present or next meeting; after which he shall be entitled to a diploma under the seal of the Society, signed by the President and countersigned by the Secretary. For this he shall pay ten dollars for the use of the Society."

Licenses to practice given by other state societies were accepted if said society accepted those from Michigan—full and fair reciprocity—in operation eighty odd years ago and for a third of a century later. Why is not the same provision as fair to-day?

Certificates of dismissal were given members moving from the territory, provided they had settled their accounts and otherwise conducted themselves decorously.

For unseemly conduct a member could be expelled by a two-thirds vote; the accused having had sufficient notice to arrange his defense—unseemly conduct included gross immorality, the using of secret nostrums, etc.

Members of the Society absent from the semi-annual meetings were fined a dollar for each offense. The admission fee was five dollars; the annual dues one and one-half dollars.

Licensed physicians in any county, on application, were granted by the territorial society the right to form a local society which, within the limits of the county, had the same rights as the territorial, except that the aggrieved member had the right of appeal to the parent society, and the county society compelled to accept the decision as final.

Thus June 12th, 1827, permission was granted Drs. Cyril Nichols, Rufus Pomeroy, William Kitteridge and David Lord to form a Washtenaw County Medical Society.

June 12th, 1831, permission was granted Drs. William Thompson, David L. Porter, E. L. Parke and Thaddeus Thompson to form an Oakland County Medical Society.

July 23d, 1835, to Drs. Hubbel Loomis, etc., to form a St. Joseph County Medical Society.

January, 1836, to Dr. L. T. Jenney, etc., to establish a Macomb County Medical Society.

January, 1836, to establish a Monroe County Medical Society.

June, 1837, to Drs. Darwin Littlefield, Hiram Alden, M. Randall, William Noneclott and Thomas Caulkins to establish a Branch County Medical Society.

April 14th, 1849, the Wayne County Medical Society—From an unpublished report of a meeting of this society, March 16th, 1850, we learn that the Censors reported that "Edmund Andrews is entitled to be received as a student of medicine by any member of the Wayne County Medical Society." Thus one of Chicago's most celebrated surgeons gained permission to begin the study of medicine from this Society.*

In 1825 the Government of Michigan was augmented by a number of councilors, elected by the people, to act in conjunction with the Governor and Judges, appointed by the general government. On that date the following changes were made in the medical law:

1. A candidate for commencing the study of medicine must be sixteen years old.

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*Thus anterior to 1850 we had seven County Medical Societies; in 1902 we have fifteen, classed as County Medical Societies, or twenty-two of all sorts, not a rapid increase for over half a century.

2. He must study medicine four years ere applying for a license. In lieu of one year, a year's study in a respectable college may be accepted—after a long reign of a far lower standard we have returned to our first.

3. If coming from another state, the candidate must produce a diploma or valid evidence to show the possession of knowledge adequate to practice medicine satisfactorily—a standard such as now prevails, except the Censors deciding the fitness are different.

In 1829, the law of 1819, as amended in 1825, was re-enacted with amendments as:

1. Surgeons and assistant surgeons, U. S. A., stationed at Green Bay, Prairie du Chene, Sault Ste. Marie and Mackinac, were permitted to do civil practice without license, provided the civil doctors were inadequate to the needs of the people about the posts.

2. County societies were permitted to hold property to the extent of $5,000, and the territorial to $25,000.

3. Evidence was required of doctors coming from other states that they had studied as much as was required in Michigan, a fair proposition for all time.

4. Doctors unconnected with any of the legal societies were subject to the same penalties as irregulars.

5. Each of the Territorial and County Censors must be notified of a proposed examination, and a majority must be actually present, else the examination could not proceed.

6. Physicians could be tried on general charges, as infamous crimes, gross negligence, or incompetency, and if found guilty, suspended from practice under the same penalties as the unlicensed.

In 1838 the medical laws were again revised in accord with a strong hostile public sentiment, developed by the active proselyting of the hords of quacks who sought a home in the new state. The population had risen from 7,000 in 1820, to 174,467 in 1837. Further it was a period of wild-cat money, of general extravagant inflation of everything, the projection of public and private enterprises on the scale of paranoiac. As the people were in a frame of mind to be robbed, the quacks gathered to do the job in accord with the axiom, "where the carcass is there do the vultures gather."

The revision covered the following points:

1. Jury and militia duty were repealed.

2. Fines for irregular or unlicensed practice were eliminated, though the law remained against the collection of fees by the unlicensed.

1. In 1846 another revision repealed Section 8, giving the unlicensed legal power to collect fees.

2. Physicians from other states were admitted to practice without any formalities—thus for the first time inaugurating the era of "free trade" in medical practice, an era unchecked until a recent date.

3. The requirement of four years of study was struck out—has it been restored?

4. Perhaps the most remarkable thing in this history, as related by Dr. Zina Pitcher, is a decision of the Michigan Supreme Court that "A doctor is any person calling himself such."

Even this brief account makes evident that the Michigan Medical Society no longer represented the State Government—accordingly it held its last meeting January 14th, 1851. At this meeting Drs. William Brodie and L. H. Cobb were

elected members, and Drs. George B. Russell, Randall S. Rice and Zina Pitcher appointed a committee to attend the next examination of candidates for the M. D. degree at the University of Michigan, Dept. of Medicine and Surgery—thus still trying to guard the gates of the medical profession of Michigan "that none enter unworthily."

During this first period of existence the total membership of the Michigan Medical Society was sixty-three. In an address Dr. Pitcher says that the yearly accessions were limited to two—if correct, it explains why during thirty-two years there were so few members. Other reasons were the expense of entrance fee, five dollars, annual dues of one and one-half dollars, fines one dollar for each failure to attend the semi-annual meetings, and the tedious, difficult modes of travel, practically limiting its membership to Detroit and adjacent country. It licensed two hundred and fifty members, whose names with date of licenses we have.

Of the number licensed by the county societies we have no means of knowing, as rarely have the records been preserved. The lists of these legal societies include about all who left any permanent record upon public professional affairs, during these thirty-two years. The Society's first officers were:

President—William Brown.

Vice-President—Stephen C. Henry.

Secretary—John L. Whiting.

Treasurer—Randall S. Rice.

Censors—Ebenezer Hurd, Stephen C. Henry, Randall S. Rice.

Note that at its start this society had but five members with which to fill seven offices, so two were given two offices each. Recalling that, quacks included, there were but eight doctors in Detroit, and scarcely more in the territory, it called for a sublime faith in these five doctors to form a medical society on the basis of ensuring a clean, well educated, honest profession in Michigan. Yet we hear it said that with a dozen physicians in a single county, it is impossible to establish a medical society. Has the nerve of our founders died out, or is it merely dormant, waiting for a galvanic current from this Society to rouse its ancestral power?

The changes of officers in this Society were very infrequent. William Brown was president seven years; William Thompson, one year; Stephen C. Henry, six years; John L. Whiting, three; Marshall Chapin, one; D. V. Hoyt, one, and Zina Pitcher, fourteen—seven presidents in thirty-two years.

Of secretaries there were but four: John L. Whiting, eleven years; Randall S. Rice, seven; E. M. Cowles, one, and J. B. Scovil, fourteen.

The records show but few papers read and few scientific discussions—the time being occupied with examining, registering, licensing, giving and receiving letters of dismissal and prosecuting offenders. The Society had its own attorney and added such other legal talent as occasion called for. It rewarded those giving evidence of violated law by assessing them with expenses if the suit failed of success, while it gave no reward for the evidence—a novel mode of administering justice.

A notable event in the Society's history was the election to membership of Dr. William Beaumont, of Mackinac, on June 14th, 1825. On August 27th, 1826, he gave the Society a report of his celebrated case of gastric fistula, with an account of clinical and chemical studies on gastric digestion, scientific observations, which

formed an epoch in our knowledge of human digestion.

In the strait uniting Lakes Huron and Michigan, on the beautiful island of Mackinac, stands a massive granite monument erected by the Michigan medical profession in 1900, when its meeting was held on the island, to express an appreciation of a colleague whose glory brightens with passing years.

January 9th, 1838, the Society voted thanks to Drs. J. G. Connell, of Jackson County, and Hiram Alden, of Branch County, for "their firmness in defending, in legislature, the privileges of the profession against the encroachments of presuming ignorance, and the disorganizing spirit which seeks to annul all vested rights, even at the expense of life of persons and property." This little side light indicates much of the practical operation of the Michigan Medical Society of that period. We have seen that it was absolute monarch of the Michigan medical profession, with power to prescribe what the student should know ere he assayed the study of medicine; what he should add to secure a license; how he should demean himself in order to retain his license; the methods by which he could be deposed; and the means by which he could be transferred to another sister medical society. But "Uneasy sits the head that wears the crown."

The Governor and Judges were men of large ability and devotion to the public good, so it was easy to induce them to enact such a law as prevailed in the states whence all parties had come. But, as ideas of individual liberty and popular government gained power in Michigan, so did the opponents of the law gain in influence. They labored in season and out to educate the people to their views. Meantime, members of the State Society, secure in possessing the law, went quietly about their work or play. Petitions to the legislature for the repeal of one feature or another increased in number and influence; the popular press was enlisted; journals for the sole purpose of educating the public to greater liberality were scattered on all sides, until naught of value remained of the law, and its friends voted for its abolition. It does not appear what would have occurred had the individuals of the State and County Societies exerted all their energies to educate the people to the maintenance of the law. The fact remains, they did little or nothing, were utterly routed and, worse still, the echo of the affair still exhibits itself on most inopportune occasions.

Dr. Pitcher's comment was that the law induced an atrophy among the members ot the Society, and stimulated conflicts among themselves to the mutilation of their own professional reputation.

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* The authorities for statements of facts in this address are the unpublished record of the Michigan Territorial Medical Society, kindly loaned by my friend, Dr. C. G. Jennings. This covers a period of thirty-two years; unpublished records of Wayne County Medical Society, loaned by Dr. S. P. Duffield. Correcting and supplementing these are the Legislative Records, Compiled Laws, Supreme Court Decisions, addresses and papers in medical journals, society reports, monographs, daily papers, Pioneer Society reports, and verbal communications from the older men and women, who personally were conversant with some of the facts, or received the same from their relatives, who were participators in the same.

Part II, concluding the President's address, will appear in the October number of THE JOURNAL.

THE JOURNAL wishes to emphasize the desirability of receiving communications on matters of interest to the profession in the state, and urges the sending in of such communications.

SURGICAL ADVANTAGES.*

ANGUS MCLEAN,
Detroit, Mich.

During the past year nothing especially new has been added to the achievements of surgery, except it be that the applications of its principles are being better understood by the medical profession at large; and the profession more and more, each year, seek to have their patients receive the benefit of these principles when any important surgical interference is required.

Every doctor desires to have his patient placed under the most favorable surroundings during an operation, and it is due to this fact that so many patients are sent, or go of their own accord, to institutions where these principles are strenuously and firmly adhered to, before, during, and after a surgical operation.

In using the term "surgical advantages" in this paper, I did not have in mind that surgery has any advantages over internal medicine, or that the surgeon in any way excels the internist; but I wish to point out the advantages offered in some localities of the State as compared with other localities for operative work in surgery. The good results obtained in surgical work are not attributable to the operator alone, for a large degree of the success depends upon the surroundings; such as, former preparation of the patient, the assistance during the operation, and after care and observations.

Wherever these aids to the surgeon's success are present, and their uses are practically followed out, that will be the advantageous locality for the surgeon.

More favorable results in capital operations can be obtained in institutions where the conveniences for the proper preparation of a patient are at hand, that is, where a warm bath, vaginal douche, rectal enema, etc., can be given, as well as the field of operation properly sterilized and an antiseptic dressing applied. An operating room that is correctly heated, well lighted, well ventilated, with sterilized solutions at hand, and fitted with modern surgical appliances and an improved operating table is far superior to the ordinary room.

All of these things, together with a corps of trained nurses, a regular assistant and an experienced anesthetist, all of whom are having daily experience, must be more efficient than those who are not accustomed to this work. The after care, when the patient is under the supervision of the trained nurse every hour, when the pulse rate and temperature are accurately taken and noted, where a suitable diet is prepared by a special cook, must be superior to after care entrusted to inexperienced persons, be they ever so willing. With all of these aids at his disposal a very careless surgeon may do a successful operation.

How very different it is with the surgeons who practice in a locality where there are no hospitals within many miles of them, and they are compelled to do capital operations in the homes of their patients, however inconvenient their surroundings may be, with no trained nurse present to assist in the preparations for the operation, with no assistant at hand to aid in the work, and no competent anesthetist within several miles of them.

The diagnosis and pathology of the case may be as accurately arrived at at one place as another. The necessary manipulations may be as skillfully carried out

*Oration on Surgery, Annual Meeting, Port Huron, Mich., June 26, 1902.

in the home as in the institution, but the principles of the modern operating room are totally lacking in the former. A large degree of the success in every capital operation depends upon these auxiliary principles. The most skillful surgeon cannot meet with success, if he does not have the advantages of perfect asepsis in all of its details, before, during and after an operation.

After the operation is completed in the home the surgeon has much to overcome to prevent the family from annoying the patient, disturbing the dressings or giving improper nourishment, with no one present competent to keep a record as to what has happened during his absence. His office is several miles away from the patient's home, with no telephonic connection and many hours of his time must be spent going to and fro, but with all of these inconveniences he frequently does good work. The doctor who is compelled to do work under these disadvantages is the doctor whom the laity and a number of his fellow brethren allude to as the "country doctor."

Who is the "country doctor"? Country doctor was a term put in vogue many years ago when many a young practitioner was compelled to settle in districts distant from medical centers, when medical journals were less numerous than now, and when there was no free mail delivery and probably no postoffice near him. For this reason most of them could not keep in touch with the progress of medicine as it advanced at the medical centers and were not acquainted with the latest theories and discoveries of their profession, and so were looked upon as not being up to date, and were referred to as "country doctors," when compared to their brethren in medical centers. This term cannot be used in this sense to-day, for within a few hours after the discovery of any scientific fact it is carried by wire and mail to every corner of the State, and there is no excuse for any physician not being acquainted with the latest discoveries in medicine.

If the lack of knowledge in the daily progress of medicine, alone, designated the country doctor, a great majority of city doctors would belong to that class, for there is a large portion of the profession of every city who does not take a medical journal or visit the medical institutions, though these places are open to them.

It is true, that the most noted surgeons of to-day come from the large cities, but it is not true that the best students, or the most efficient graduates remain in the cities, for the very best of these frequently leave the city for the outer localities. It cannot be then that this virtue, or quality, that allows the city surgeon to lead the country surgeon, lies in the man himself, but it is in the advantages and opportunities which are offered to him by his locality. It has been said, "where there is nothing great to be done, a great man is impossible." I would change this somewhat in relation to this subject and say, "without an advantageous locality it is impossible for the surgeon to become great." There have been some exceptions to this, but they are few, and were before the days of antisepsis. When it is known under what disadvantages these physicians have to do their work, they are to be admired for the amount they accomplish, but instead of receiving the admiration due them they are probably the most maligned and vilified class of people, by those who do not know their virtues, and the unfavorable circumstances under

which they have to do their work, that exist. It is not pleasant to be slandered by those who do not know you, though it be an avenue to fame.

When they do discover anything new, they have not the opportunity to present it to the profession that the city man has, and some of their discoveries are not published until they have been deprived of the credit of their discovery by an urban colleague. This has been demonstrated so often that it has been said, "that before declaring anything new in medicine, wait until the rural districts have been heard from."

The doctors in the outside localities compare very favorably with the other professions, that is, the ministry and the law, and yet we do not hear of those professions being abused and belittled, for they are on a par with the professions of the city. The "country minister" is just as close to the Lord and has just as good an opportunity to make an interesting address at any four corners of the State as though he were standing on a carved pedestal in the center of a metropolis, and so with the legal profession, for they are just as near the realms of justice, or nearer, in the rural districts than in the stately court room of a large and corrupt city.

Now, what is to be done for the local surgeon, that he may have an opportunity to display his skill? Give him the same advantages that his brother in the larger town has; that is, give him a hospital and its equipments in his county. There are a number of urgent cases that die every year throughout the State for the want of a proper place to take care of them. By urgent cases, I mean cases that require immediate surgical relief, namely, strangulated hernia, extra-uterine pregnancy with ruptured tube, penetrating wounds, acute appendicitis, ulceration of the intestinal walls in typhoid fever, intestinal obstructions, etc. All are agreed that the success of the operation in these cases depends upon early surgical interference. If these cases have to be transported across the State, or from one end of the State to the other, it takes up valuable time, at the expense of the patient's vitality and the golden opportunity to save a life is lost.

Every county should have a surgical hospital with a trained nurse and a competent assistant in attendance, where the surgeons of the locality could take their urgent cases. There are many counties in this State that do not have a hospital within many miles of them.

The State and counties spend large sums of money in erecting buildings and furnishing equipments so that the medical students may be well instructed in pathology and the principles of surgery, but neither the State nor county spends any money in furnishing them a proper place to do their work. The State appropriates annually large sums for erecting and maintaining institutions and homes for the aged, poor, blind, deaf and dumb, etc., a class of people who are not as valuable or as useful as those who so frequently demand immediate surgical relief. These urgent cases usually happen among active adults who are valuable and producing citizens.

There is but one State hospital in Michigan and that is located in one corner of the State and very few counties have a hospital of any kind.

These hospitals could be erected in the center of each county that requires one, at a moderate cost, and the patients could easily be taken there. These patients would not feel then as now that they are

being taken away from their friends, but that they were right among them, and they would not suffer from the mental shock that they do now when they are sent hundreds of miles from home. If the local surgeon did not feel competent to undertake the operation he could send for any surgeon whom he chose and the patients would have the benefit of letting the surgeons take the journey instead of taking it themselves. With an institution of this kind the country surgeon would develop just as a city surgeon has, and would be just as competent. A few of those valuable lives saved each year would more than compensate for any expense incurred in sustaining a hospital of this kind.

If some wealthy philanthropic citizen were to build a few hospitals of this kind in needful localities, he would erect a monument for himself, that from a point of virtue, would tower far above the libraries of Andrew Carnegie. When the State does so much for those who are mentally, visually or senilely afflicted, why should they not do as much for those who are "surgically afflicted"?

If some such plan as this were followed out it would equalize the opportunities to do surgical work and no doubt some local surgeon would be equal to the occasion and grasp the opportunity. There are doctors in every locality who do not take advantage of the opportunities offered them and a large percentage of these live in our large cities.

These plans that I have suggested of equalizing the opportunities to do surgical work may not be thought practical by some, but I do know that just as good physicians locate in these small places as settle in our cities, and if the city surgeon in time excels his brother of the country, it is due to the advantages of the former and not to any superior knowledge or virtue that he possesses.

Until the local surgeon is given the same advantages to do work that his city brother has, I do not think that the laity or his professional brethren of the city should belittle or refer to him as the "country doctor," using this term as though it related to a physician or surgeon who was incompetent.

Arrange matters so that the outside surgeon shall have the same advantages that are offered to those of the city, and I will guarantee that his success will compare favorably with that of his city brother, and many lives that are now forfeited through delay and improper surgical surroundings, will be saved, and they will remain useful citizens to their community, owing to an opportunity to receive the benefits of modern surgery and its auxiliaries.

In response to many inquiries, THE JOURNAL wishes to announce that reprints of articles will be furnished at cost price.

At the annual meeting of the Society, Port Huron, June 26th, 1902, before the Section on General Medicine, the following symposium was delivered:

DISEASES OF THE KIDNEYS.

(a) Etiology. Mortimer Willson, Port Huron.

(b) Diagnosis. John E. Clark, Detroit.

(c) Complications:

Uraemic. John McLurg, Bay City.

Ocular. Walter R. Parker, Detroit.

Cerebral. Irwin H. Neff, Pontiac.

(d) Treatment. Joseph B. Whinery, Grand Rapids.

Discussion opened by George Dock, Ann Arbor, and J. H. Reed, Battle Creek.

ETIOLOGY OF KIDNEY DISEASE.

MORTIMER WILLSON,
Port Huron, Mich.

It may not be unprofitable at the beginning of this discussion to review the main facts in the anatomy and physiology of the kidney.

The essential elements in the structure of the kidney are the glomeruli or Malpighian bodies, the uriniferous tubules, and the blood vessels. These are bound together by the connective tissue into one mass. The glomeruli are tufts of blood vessels covered over by a reflexion of the terminal portion of the membrane of the uriniferous tubule. This reflexion is called the capsule of Bowman, and the space between the folds forms the first of a series of reservoirs, the collecting tubes being next, then the pelvis of the kidney, and lastly the urinary bladder.

After emerging from the glomeruli or capsule of Bowman, the uriniferous tubules pursue a devious course and are conveniently divided into the distal convoluted tubule, the descending limb of Henle's loop, the ascending limb of Henle's loop, and the proximal convoluted tubule which opens into one of the collecting tubes.

In the capsule of Bowman and the distal convoluted tubule, the epithelium is of the squamous variety and has indistinct nuclei. In the ascending limb of Henle's loop and the proximal convoluted tubule, the epithelium is polyhedral in form and striated in structure, with distinct nuclei situated near the lumen of the tube.

This difference in the form and structure of the epithelium can comport only with a decided difference in function. If indigo-carmine be injected into the blood vessels of a dog, and the kidney be soon after examined, it will be found that the polyhedral cells have selected and removed a portion of the substance from the blood, and are discolored by it, and even the lumen of the tube filled with it; whereas the distal convoluted tubule and the descending limb of Henle's loop are not colored by it, the squamous epithelium lining these parts having no affinity for it. Now the probable physiological functions of these portions are as follows: The main function of the polyhedral epithelium is to secrete and excrete urea; that of the squamous epithelium in the capsule of Bowman and the first portion of the tube is to eliminate water and salines. The location of this apparatus, distal to that of the urea secreting portion, gives an abundant and suitable menstruum for the solution and washing away of the urea as it is extruded into the lumen of the lower tube. In the avian and reptilian kidney the water excreting apparatus is deficient or wanting and the uric acid and urates are thrown off in the form of a paste.

Now it has been shown that this is really the process by ligating the ureters, and thus checking the current of water through the tubes. When the kidneys are examined after this has continued for some hours, the urea is found only in the tubes and in a semi-solid condition, often in such quantities as to give the kidneys a whitish appearance. But no urea is found in Bowman's capsule. The function of these parts being so distinct, it would be likely that they would re-act in different ways to any morbific agent.

There is possibly here an example in the evolution of the kidney of that conservative or protective arrangement found in other organs of the body; as the

change of epithelium in the bronchi and air vesicles, whereby inflammatory processes are limited.

The kidneys are the channel by which some of the most toxic of the products of catabolism are eliminated from the body. The renal tissues are tolerant of the toxics when they occur in normal amount, and so no disturbance of function takes place. Aside from traumatism, disease of the kidney may be caused by, (1) the invasion of the organ by bacteria; (2) the presence of toxines natural to the urine, but in quantities so large as to be injurious to the capillaries of the glomeruli or epithelium; (3) toxines produced by general or local disease; (4) toxines produced by perverted or arrested chemistry; (5) poisons taken by the stomach.

It is easy to understand how disease germs may reach the kidney from the urethra or bladder. The typhoid and colon bacilli have been found in the congested or inflamed kidney, showing that there may be an invasion of disease germs by way of the blood vessels. But the chief factor in the production of disease of the kidney is toxaemia, whether the toxic elements are those which are normally eliminated by the kidneys, but in quantities sufficient to overtax and irritate the tissues, or toxines diverted to the kidneys which should be eliminated by other organs, or the toxines of infectious diseases.

Exposure to cold is given in all textbooks as a cause of nephritis, but it is not the cold that causes the disease. Only when the chilling of the skin and blood results in an arrest of dermic excretion, and a perversion of tissue metabolism whereby the toxicity of the blood is increased to an extent that irritates and injures the kidney tissues, is inflammation induced.

No doubt the temporary congestion arising from increased blood pressure is a contributing cause in these cases, but not this alone nor the cooling of the blood of itself will directly produce nephritis.

So in long continued gastroenteritis the vitiation of the secretions, the ptomaines of putrescent intestinal contents produce such a toxic condition of the blood that kidney disease very often results. This is a complication very often overlooked. That typhoid fever is very often a cause of kidney disease of at least functional character, any one who makes urinalysis a routine practice in all febrile diseases will soon discover.

During a recent epidemic in this city, I found albuminuria in 40 per cent. of my cases at some time during the second week of the disease. In one case I found albumosuria, with no bone lesion of any kind. So it will be found that the toxines of many febrile diseases produce very decided kidney symptoms.

Among the etiological factors in the production of kidney disease are usually enumerated errors of diet, overwork, and mental strain. But these are antecedents to a common condition; that is, perverted assimilation and excretion with a lowering of the sum total of vitality.

The toxine of diphtheria very often produces secondary disease of the kidney, and this is sometimes further aggravated by cardiac weakness.

It is well known that men in certain occupations where they are exposed to the fumes of phosporus, arsenic, mercury, lead, or turpentine may suffer functional or even organic renal injury. It makes no difference in the effect whether these poisons are gradually taken into the system as a result of man's occupation or whether they are taken in quantity by the stomach, the amount in the blood plus the

duration of toxic action determines the effect of injury.

Gout and rheumatism, if not caused by, are accompanied by an excess of uric acid, which by its irritating effect on the kidneys is predisposing to disease. Doubtless these diseases are accompanied by other and undetermined toxines in the blood, which may be still more potent in the production of kidney disease than an excess of uric acid.

Among infectious diseases, scarlatina is most frequently a cause of nephritis, while in measles it is seldom noticed, and is very rarely met with in rotheln.

The nephritis does not seem to depend on the height of the fever or the intensity of the exanthema; for very frequently we have a pronounced nephritis in mild cases in the second week, and very severe cases may run their course without albuminuria.

The explanation lies in all probability in the greater resisting power of the kidney in some people than in others. Smallpox very often causes nephritis, but not so frequently as scarlatina. The form of nephritis in these cases is mostly desquamative, but in some of the fatal cases we find exudative or productive nephritis.

Those who make urinalysis an almost routine practice in all serious disorders will find the kidney very frequently effected in the eruptive or secondary stage of syphilis. Of course in the tertiary stage the kidney, like all other organs, may be the seat of gumma; but in the secondary stage we have albuminuria, and frequently true nephritis. It is rare in such cases to have the oedema that is so frequently a symptom of scarlatinal nephritis. Why this is so it is not yet possible to say. Whether the oedema is due to the uremia or to other toxic materials, or to the differentials in salines or pressure is still problematical.

In all these cases where nephritis is caused by or occurs in the course of the infectious disease, it is the toxines of the disease that in reality produce the injury to the kidney.

The kind and intensity of the toxic elements will to a great extent determine what the extent of the injury may be, and what particular form the nephritis will assume. Some toxines acting more on the blood vessels will cause productive nephritis, while others acting more on the renal epithelium will cause parenchymatous nephritis. If the glomeruli are principally involved we have a more or less transient albuminuria.

It is undoubtedly true that heredity plays an important role in the etiology of nephritis. Not the inheritance of disease, but the low vitality and the small resisting power of the kidneys to injurious influences is here meant. As in consumption, it is simply a deficiency that is inherited, not a disease. This fact is sometimes obscured by the peculiarity manifested at all times in all heredity traits; that they are liable to skip one generation to appear in the next.

Hitherto the consideration has been given in this paper to those diseases of the kidney of an inflammatory character. One of the most important of kidney troubles that afflicts mankind is calculus. Though in its incipiency it can scarely be called a kidney disease, yet it may prove one of the most grave causes of injury or destruction.

The causes that lead to calculi are irritation of the lining membrane of the tubules or pelvis whereby too much mucus is secreted, and this uniting with amorphous urates and other elements form a

nucleus on which uric acid crystals and other crystalizable substances form.

Then the pressure of the calculus will be a source of irritation and traumatism, and so grave renal disease may arise.

To epitomize: renal disease is caused by the invasion of bacteria, or by some toxic or irritating material in the blood. Unusual or long continued increase in blood pressure will greatly aggravate the injurious effects of these toxics. In fact, a long continued congestion, due to cardiac insufficiency, will so change the function and nutrition of the renal tissues that organic disease of very grave nature may result.

DIAGNOSIS OF DISEASES OF THE KIDNEYS.

JOHN E. CLARK,
Detroit, Mich.

The topic assigned to me and the time allowed bear such relation to each other that it will be impossible to consider anything more than the most important affections of the kidneys from a diagnostic standpoint.

A complete classification of diseases of the kidneys involves the following heads:

1. Renal congestion.
2. Renal hemorrhage (including infarctions).
3. Bright's diseases.
4. Pyelitis.
5. Hydronephrosis.
6. Cystic kidneys.
7. Precipitates and concretions (renal calculi).
8. New growths (cancer, etc.).
9. Parasites.

I will eliminate from this classification the rarer organic and functional troubles and confine myself almost entirely to consideration of that scourge of middle and modern life, Bright's diseases of the kidneys. Originally, as is well known, this name was given to all conditions characterized by the presence of albumin in the urine. Experience has shown, however, that so far from indicating in all cases what is now called Bright's disease, albuminuria is often but of slight importance. Ralfe makes the statement that "functional" albuminuria constitutes from one-half to one-third of all the cases of albuminuria that come under notice. I decidedly endorse this opinion. My experience with a large number of cases leads me to believe that even a larger percentage are merely functional; of renal insufficiency or increased arterial tension without any serious renal lesions. There is scarcely a prevalent disease of zymotic, traumatic, inflammatory or toxic origin which will not at some period in its course show traces of albumin in the urine, if careful and constant analysis be had. These Bright's diseases in their protean forms are rapidly coming to the front as competitors of tuberculosis for the horror and destation of mankind and, unfortunately or fortunately, are mostly confined to the leisure class or the class of patients to whom work in the way of physical exercise is almost unknown. These diseases become chronic chiefly with the high-livers, the brain-workers, and the men about town; the laborer, farmer, artisan only occasionally falling a victim. The acute and sub-acute forms which are of the same nature most frequently are caused by exposure, cold, dampness and poor diet. Often these forms are caused by irritating medicines, such as copaiba, phosphorus, arsenic, lead, mercury, and I have had one instance following nitrate of silver.

An important symptom of renal disease mentioned in the text-books is pain in the back. I fear that I am somewhat heterodox when I state that in no single instance in my experience have I met with this as a prominent symptom. In fact, I am convinced that pain in the back is not a symptom of either acute or chronic nephritis, and that when it does occur it has no reference to kidney disease but is merely a more or less marked lumbago.

Distinction between acute and chronic forms of Bright's disease is readily made from the history of the patient and the character of the onset of the disease. They have nearly the same subjective and objective symptoms, modified of course, but no clearly defined line of demarcation.

Of the acute forms Delafield describes three varieties:

1. Acute degeneration of the kidney.
2. Acute exudative nephritis.
3. Acute productive nephritis.

There are two prominent varieties of the chronic form:

1. Exudative chronic nephritis.
2. Non-exudative chronic nephritis.

Some writers insist upon many different varieties of renal lesions under these heads, but to the every-day practitioner any attempt to diagnose these sub-varieties with accuracy is difficult and often impossible.

Of the thirteen different lesions which are recognized by the expert, each may be classified under one of the above heads without materially interfering with the necessary therapeutics.

Exudative chronic nephritis is probably better known as "chronic parenchymatous nephritis," fatty degeneration of the kidney, or chronic diffuse nephritis.

The other, non-exudative nephritis, has been variously termed chronic interstitial nephritis, sclerotic kidney, gouty kidney, small granular kidney, etc. These two conditions deserve more than ordinary attention inasmuch as the majority of deaths from chronic renal disease are either the interstitial or parenchymatous variety.

Exudative chronic nephritis is a disease characterized by marked degenerations of the glomeruli as well as the epithelial lining of the renal tubules. There is degeneration and desquamation of the tubular epithelium, kidney is enlarged, pale, and capsule non-adherent in many cases. It is this form of Bright's disease where inter-tubular tissue is involved that we have such marked edema and dropsical effusions. In advanced cases the diagnosis is easy. There are two well marked stages, active and passive, or non-active, and the course of the disease is characterized by frequent transpositions from one stage to the other.

The most marked prodromata in the incipient stage are the lassitude with headache and slight vertigo, which are the symptoms which bring the patient to consult the physician. An examination of the urine at this stage will show the color abnormally high, quantity very small, specific gravity as high as 1030, albumin abundant with large hyaline and coarse granular casts and considerable amount of cast debris. As the disease progresses fatty casts make their appearance.

Following the lassitude and headache, symptoms of dropsy develop, puffiness of the hands and eyelids and a general anasarca follow. About this time disturbances of digestion make their appearance, such as nausea, hyperacidity and flatulence, then insomnia, hemorrhages and uraemia with convulsions.

A most characteristic symptom is the

activity of the disease at times, followed by a retardation so marked as to give the patient false hopes of recovery. Its diagnosis by urinalysis is not difficult, albumin is abundant, from one-half to four per cent. by weight; when it exceeds two per cent. it will solidify when heated in a test-tube. Blood may be present if the disease be complicated by an acute process.

Of the non-exudative or interstitial nephritis, urinalysis shows urine color of water, and the quantity very large, specific gravity very often below 1005, albumin frequently absent. Careful examination may at times discover a trace. As a rule, no casts are found, but by the aid of the centrifuge occasionally hyaline casts may be discovered. It developes slowly and insidiously and like the exudative variety it is first characterized by a lassitude and muscular weakness. Excessive arterial tension with cardiac complications ensue. Often the first symptoms to which the physician's attention is directed by the patient is the precordial disturbances. A physical examination may show accentuation of second sound of the heart with hypertrophy of left ventricle.

There is present the same digestive disturbances as in the parenchymatous form, severe headache and ocular disturbances, but no noticeable edema is present. Occasionally a slight puffiness of the ankle is noticeable. In the interstitial form even an advanced stage of the disease may be accompanied by considerable mental and bodily activity, pulse is high, walls of the vessels thickened, tension increased. There is sleeplessness, failing vision and shortness of breath. Diarrhoeas are serious and frequent, hemorrhages from the nose or into the menin-

ges may occur, tinnitis aurium is not uncommon. Diagnosis by urinalysis is difficult owing to the fact that the urine, except in quantity, is not far removed from normal. A large amount of albumin in urine and a marked edema argue against this form of disease. There is no disease in which an unfavorable prognosis is more justified, provided a correct diagnosis is obtained, but many autopsies have demonstrated that degeneration of the kidney often fails to follow a manifestation of many or nearly all of the symptoms above enumerated, while on the other hand an advanced structural derangement of the kidney may be present with but simple gastric irritability as an indication.

By far the most important means of diagnosis of renal disease is urinalysis; this, however, has its limitations. Diagnoses based on this entirely may be quite erroneous. The time is past when the discovery of albumin in the urine authorizes the physician to give fatal prognosis, in fact, the presence of hyaline or granular casts in combination with the albumin, which is much more indicative of serious renal disease, should only warrant a more careful review of all concomitant symptoms before a positive diagnosis be given. I do not wish to detract in any way from the importance to be attributed to the presence of albumin and casts as a valuable factor for determining grave kidney disease, but I consider there are other indications as necessary of determination. Diseases of secondary importance, by this I mean those from which recoveries are frequent, are often accompanied by excessive quantities of albumin and various casts, no special cast being characteristic of any given disease. An acute parenchymatous metamorphosis of the kid-

ney is characterized by abundant albumin, while a more serious condition, such as interstitial nephritis, gouty, waxy, sclerotic kidney, diseases almost invariable fatal, usually show no albumin and negative results on microscopical examination. As a rule in these cases, no casts are found, or only an occasional hyaline, while diphtheria, measles, fevers, erysipelas, smallpox, acute infectious diseases, articular rheumatism, gout, lobar pneumonia, pyaemia, endocarditis, dysentery, carbuncles, suppurative processes, lead poisoning, etc., not only respond to the test for albumin but also give at some time in the course of the disease many and various casts.

Albumin also occurs transiently in moderate quantity in other conditions. It is often found following grip, accompanies dyspepsia, and I have frequently found it in the urine of athletes after exertion. In these cases it is probably due to a vaso-motor-paralysis with renal capillary relaxation.

Dr. J. F. Henkel, of Detroit, has recently drawn my attention to a case in which the administration of mercury is followed by hyaline and granular casts. They disappear when the administration is stopped.

I believe that the rapidity with which certain substances are eliminated by the kidneys is an exceedingly valuable aid in diagnosis. It has been shown by Bassett, *New York Medical Record,* that in chronic nephritic conditions there is a retardation in the elimination of many substances by the kidneys. I have made many experiments, more especially with the iodides, which are eliminated in from a few minutes to as many hours. The iodide of potassium is probably the most satisfactory to experiment with, although other substances, such as the turpentines, salts of quinine and bromides, asparagus, etc., give very satisfactory results. My experience with iodide of potash is such as to justify the statement that within reasonable limits the time required for its elimination is in direct ratio to the degree of chronic nephritis. To detect the iodides or bromides, all that is usually required is the addition of chlorine water and bi-sulphide of carbon to the urine.

The centrifuge marks a new era in urinalysis, inasmuch as it permits approximate results to be quickly known. It is unscientific and cannot be relied upon in quantitative work, but is of especial value in presenting for microscopical examination urine sediment. We also have new methods for detecting the presence in small quantities of albumin in the urine. It is well known that of all the multitudinous re-agents used for the detection of albumin none are quite so satisfactory and safe as Heller's modification of the heat and nitric acid test, the well known zone test. This has not met the popular approval to the extent it warrants, owing to difficulty of its application, which necessitates underlying the urine with a stratum of nitric acid. To facilitate, an admirable little apparatus called "Horismascope" has been devised and answers the purpose of detecting minute quantities of albumin. F. A. Thompson & Co., Detroit, present a simple, cheap and effective design for the same purpose, which avoids the annoyance usually attending the application of the zone test.

There is little doubt but that the X-Ray will be added to the armamentarium of the physician as a very effective means of diagnosis in the chronic varieties of Bright's disease. The enlarged kidney of the parenchematous form, it is

claimed by some, can even now be determined from the interstitial in thin and emaciated subjects, and considerable work has been done with this end in view. Skiagraph shadows of the kidney in adults have been found very indistinct, but with children some quite satisfactory results have been obtained. This, be it remembered, in the immediate past. May we not hope that the progress of the last few years may be but the inception of what shall prove to be a glorious future for this mode of physical diagnosis?

URAEMIC COMPLICATIONS IN DISEASES OF THE KIDNEYS.

JOHN MCLURG,
Bay City, Mich.

Before taking up the uraemic complications of kidney diseases, I will refer to the etiology and pathology of uraemia. Is it an auto-intoxication due to the retention in the blood of the ordinary urinary salts, as urea and other products of tissue metabolism, or is it due to the toxic products resulting from the perverted function of diseased kidneys?

The most generally accepted view is that it is due to accumulation in the blood of excrementitious material which should be carried off by the kidneys.

Cases of obstructive suppression of urine throw a good deal of light on the pathology of this condition. In these cases the absence of marked symptoms of uraemia is very striking. Cases are on record in which, though there was total suppression for several days, not a single bad symptom was observed. Dr. W. Mitchell Stevens, of England, reports a case of death due to obstruction of both ureters by calculi. For seven days not a drop of urine was passed, nor could any be obtained by catheterization. The only symptoms observed were a gradual and progressive loss of muscular strength, gradual enfeeblement of the pulse and respiration, slightly contracted pupils and obstinate constipation. There was no nausea, vomiting or twitchings. The mental condition remained clear to the last and the immediate cause of death was probably respiratory failure.

In non-obstructive suppression, although a small quantity of urine may be passed, the cases as a rule end fatally in a few hours or a day or two, and uraemic symptoms are prominent.

It is obvious, therefore, that uraemia does not depend solely on an accumulation in the blood and tissues of the body of the excretory products, such as urea, which is normally excreted in urine. In non-obstructive cases the suppression is due to acute pathological changes in the kidneys.

In obstructive cases the suppression is due to a mechanical cause outside the kidneys, which may be perfectly healthy and which will resume their normal function on the removal of the obstruction.

In cases of obstructive suppression the excretory function only is in abeyance, whereas in non-obstructive suppression some other function besides excretion is affected. Of course the abolition of the excretory function alone will cause a fatal result, but this is only delayed for some days, in one case twenty-two days, and the symptoms of uraemia are late in appearing and may be absent for as long as ten days or more, and then are not pronounced. Convulsions and coma rarely occur and the mind remains clear to the end. The explanation of this probably is that the kidneys are practically healthy and carrying on their other functions.

These other functions are possibly due to some internal secretion which has some influence on certain metabolic processes as yet unknown (Stevens).

Large quantities of urea may be administered to healthy animals without causing uraemic symptoms.

Causes.

The conditions of the kidneys which cause uraemia are the various forms of Bright's disease, and most commonly the chronic form.

Symptoms.

The symptoms of uraemia are mostly all referrable to the nervous system but manifest themselves in various organs and parts of the body.

They are headache, nausea, vomiting, dyspnoea, irregularity of heart, impairment of vision, uraemic amaurosis, convulsion, coma, transient aphasia and sometimes acute mania.

The headache is usually occipital and extends to the neck. It is often one of the earliest symptoms.

The gastro-intestinal symptoms are often very marked and the vomiting sometimes uncontrollable and thought to be due to the action on the gastric mucous membrane of urea, as carbonate of ammonia, into which it is decomposed, is found in the vomited matter.

The dyspnoea is usually paroxysmal and worse at night. It is generally called renal asthma. Cheyne-Stokes breathing is quite common.

The pulse is usually slow, but during and after a convulsion is rapid and weak.

Impairment of vision in these cases is generally due to albuminuric retinitis, but in some cases we have complete blindness with no appreciable change in the retina, the visual centers being affected by the toxic elements. These cases generally recover their vision in a few days.

Convulsions are the most common and severe symptoms of ureamia and they generally come on suddenly and unexpectedly, being often preceded by headache. They are apt to recur at short intervals, the patient being unconscious between the seizures. They may cease for a time as the disease progresses.

Coma.—A convulsion sometimes ends in coma, but this may develop gradually without any convulsion. Headache is usually a prodromal symptom of coma and this may come on without any intimation of previous renal disease.

Aphasia may be the precursor of convulsions or coma. It occurs most often in children in cases of scarlatinal nephritis. It is generally transient in character. Some of the other symptoms of uraemia are intense itching of the skin, aching pains in the legs, cramps in the calf muscles, especially at night.

It has been my experience that where there is much general odema the uraemic symptoms are absent altogether or not nearly so prominent. One of the worst cases of uraemia that I have ever seen had not the slightest odema during the progress of the disease.

OCULAR MANIFESTATIONS OF NEPHRITIS.

WALTER R. PARKER,
Detroit, Mich.

The ocular conditions arising from disease of the kidney which are of the most interest to the general practitioner are uraemic blindness and retinitis albuminurica.

In uraemic blindness the patient declares that everything becomes dark be-

fore his eyes; the disturbance of sight increases so rapidly that the blindness gets to be complete within a few hours. Eye examination is negative. After one or more days the sight is gradually restored. Coincident with the attack of visual disturbance, other nervous symptoms characteristic of uraemia manifest themselves. The lesion is probably central, being produced by the poisonous action on the nervous centers of material accumulated in the blood as a result of the diseased kidney.

The most characteristic of the inflammations of the retina is albuminuric retinitis. In addition to the general signs of retinitis, such as haziness of the retina and nerve, changes in the retinal vessels and hemorrhages, it is particularly distinguished by the white patches in the fundus, arranged as a stellate crown with the mammula lutea as its center. The pure white appearance is due to the fatty degeneration of the retinal elements and of the exudate.

Every form of kidney disease which results in albuminuria may be complicated with retinitis, but the one most frequently so complicated is the atrophic kidney of chronic interstitial nephritis. It is rarely found in the so-called large white kidney, more rarely still in acute nephritis, as seen in pregnancy after the acute exanthemata, especially scarlet fever; and less frequently in variola, measles, erysipelas, diphtheria or lead poisoning.

Both eyes are almost invariably affected and so characteristic is the picture in typical cases that from it alone the diagnosis of albuminuria may be made. Many cases, however, do not show this characteristic appearance so that the etiology of the retinitis is determined only by the examination of the urine.

The period of the renal disease at which the retinal changes develop has not been accurately determined, but in many cases it corresponds to the cardiac hypertrophy.

The connection between the kidney lesion and the retinitis is said to consist in a development of a disease of the walls of the vessels in the retina, in consequence of the altered composition of the blood, a disease which results in inflammation and degeneration of the retina itself.

Theador holds (Norris and Oliver) the main factor in the pathogenesis of albuminuric retinitis to be an arteritic process of all the blood vessels of the eye, with narrowing of the lumen, especially of the smaller vessels.

The severity of the retinitis bears no fixed proportion to the intensity of the kidney disease, nor to the amount of albumen in the urine. The retinitis may improve while the kidney lesion grows worse, or the reverse may be the case. As a rule, however, the proportion is direct and in chronic cases a marked albuminuric retinitis is of evil prognostic significance.

The retinal involvement makes itself known to the patient only by a loss of vision, the acuity of which is more or less variable.

If the improvement does not depend on a betterment in the kidney disease, it does not last. Blindness almost never results, the retinal disease being of graver prognosis in regard to life than to vision.

In acute cases, as in pregnancy, and after scarlatina, the retinitis clears up as the kidney lesion improves, leaving little or no trace behind.

In chronic cases, however, a different picture presents itself. From ten to fifteen per cent. of patients suffering from

chronic nephritis have albuminuric retinitis.

The prognosis is always very serious. Seventy to eighty per cent. die within twelve months from the date of the onset of the retinal disease, and ninety per cent. within eighteen months. Depending upon the nature of the kidney lesion and the conditions under which the patient lives, a few may survive several years.

Nothing can be done in the way of local treatment, other than protection by means of colored glasses.

THE CEREBRAL COMPLICATIONS OF KIDNEY DISEASE.

IRWIN H. NEFF,
Pontiac, Mich.

When considering the cerebral complications of kidney disease, it is well to emphasize these facts:

(1) Any syndrome which may develop is often more or less diversified and atypical.

(2) The variation in symptomatology is dependent upon the extent and multiplicity of the lesions.

(3) The symptoms are not always dependent on uremia, or the retention of effete products; and are not infrequently expressions of the generalized arterial fibrosis, which often accompanies chronic renal disease.

If we have these principles firmly fixed in our minds, we have a good working basis for the brain symptoms of kidney troubles. The cerebral complications of renal disease are dependent upon toxaemic states, localized or generalized oedemas, hemorrhage, anaemia, thrombus and embolus.

Henry P. Loomis (American System of Practical Medicine, Vol. 2, page 744) has well expressed the brain symptoms which develop during the course of chronic interstitial nephritis.

His classification is as follows:

(1) Disturbance of motor center: uremic convulsions, epileptic convulsions, tremors, localized contraction of muscles, especially those of neck and face.

(2) Disturbance of physical center: delirium, hallucinations, vertigo, coma, melancholia.

(3) Sensory center: deafness, blindness, and hemiopia.

(4) Center of respiration: dyspeona, Cheyne-Stokes respiration, laryngeal spasms.

(5) Center for heat regulations: hypo- and hypothermia.

It will thus be seen that the symptoms are somewhat diversified, and are dependent—as stated above—upon the seat of the pathological lesion.

Variation in the syndrome of the cerebral seizures—if I may so call them—is interesting and suggestive. Thus we may have localized cerebral symptoms; such as paraphasias and other speech difficulties, localized sensory disturbances, particularly the acro-paraesthesias and more commonly headache, vertigo, and other general brain symptoms; and as an aid to the prognosis, it is well to state here that such symptoms are often transitory and yield quite readily to symptomatic treatment.

As demonstrating this condition, I would refer to two cases recently under my care. In one case, a Broca aphasia was unassociated with other nervous symptoms. The other patient showed a well marked right hemiplegia. Both individuals recovered from their respective symptoms when placed under milk diet treatment. It is also noteworthy to state that in these cases, renal disease was not

suspected prior to the onset of the brain symptoms.

The uremic symptoms are, of course, paramount; but it should be remembered that uremia is not always the cause of these cerebral symptoms. The generalized vascular fibrosis which accompanies the forms of chronic nephritis is an etiological factor in the production of hemorrhage and thrombotic deposits. Unquestionably many of the isolated cerebral symptoms which are observed in the "granular kidney" are due to such lesions. In this connection it is well to mention that a sub-pial oedema of inflammatory nature not uncommonly occurs, and may be more or less diffuse.

Persistent headache and neurasthenic symptoms are often primary symptoms, and are frequently seen in the first stages of the disease. As is well known, cerebral hemorrhage occurs with a fair degree of frequency. The fact that this may be dependent on the secondary cirrhotic arterial change of chronic kidney disease is often forgotten.

When estimating the importance of any cerebral symptom of renal derangement, it should be remembered that chronic Bright's disease is attended with general somatic changes. Any localized symptom or syndrome is dependent on (1) the accumulation of toxic products in the blood and their consequent action on nerve tissues; (2) changes in the walls of the blood vessels, permitting a serous exudation which may be more or less diffused; or (3) the changes in the vessel walls may be so pronounced that there may be a rupture of the coats, producing a hemorrhage, or a formation of a thrombus. Localized cerebral symptoms are indicative of oedema, thrombosis, or hemorrhage; or on the other hand generalized symptoms; such as coma, delirium, convulsions, and the psychoses which are dependent on uremia, or some other form of toxaemia.

In the light of recent knowledge, we must not regard the term "uremia" as explanatory of all the nervous symptoms of kidney disease. It is a convenient term, but no doubt often incorrectly used. An examination of the urine of suspected cases of "uremia" will not uncommonly show that, not only is there a normal percentage of urea, but that there is no well marked change in the toxicity of the urine. We are thus forced to consider the symptoms as directly dependent upon the fibroid arterial changes.

Although the cerebral symptoms of kidney disease occur as a rule after the disease is advanced, they may be the first objective signs; that is, symptoms which lead to an investigation for disorderly kidney function.

In conclusion I would offer the following summary:

(1) The cerebral symptoms of Bright's disease are dependent upon a lesion, which may be localized or diffused.

(2) The syndrome quite often shows variation in intensity of symptoms, and their sudden appearance or disappearance is characteristic.

(3) While the brain symptoms are generally terminal or appear late in the disease, a development of general or isolated symptoms is not infrequently seen in the early stages of kidney degeneration.

(4) Persistent headache and a neurasthenoid state are suggestive of disordered kidney function.

(5) The generalized cerebral symptoms, such as headache, general convulsions, and disturbance of the sensory, motor, and psychical centers are more commonly dependent upon toxaemia.

(6) The localized cerebral symptoms are generally related to the vascular change; being the expression of the cirrhotic arterial change which accompanies the kidney degeneration.

(7) Uremia is a term often loosely applied to account for many obscure nervous symptoms. Its use should be restricted to these cases, where the condition can be determined by thorough urinalysis.

TREATMENT OF DISEASES OF THE KIDNEYS.

JOSEPH B. WHINERY,
Grand Rapids.

If I understand the scope of the subject under discussion, we are dealing with nephritis in its acute and chronic forms and the remarks made with reference to treatment will apply to these diseased conditions only. In discussing the treatment of so common a disease as nephritis, I can merely review in a brief manner points which are generally recognized by the profession.

In the treatment of acute nephritis, irrespective of the cause, the patient should be guarded against exposure; he should be clothed in flannel garments and kept in a bed provided with blankets. The diet should be bland—at first milk given in small amounts well diluted with lime water or some mineral water. The milk should be gradually increased until one or two quarts are taken a day, and gruels should gradually be added. On account of the engorgement of the vessels of the kidneys, a liberal amount of water should be given at stated intervals. In addition I have found the well known drink of a dram of cream of tartar in a pint of lemon juice a useful one.

As a rule, very little medicine is needed to control the fever. Liquor of ammonium acetate usually being sufficient. Elimination by the skin and bowels is indicated. Hot drinks, such as lemonade, or the use of a hot-water or hot-air bath, followed by wrapping the patient in a blanket, will usually cause free diaphoreasis. When these means fail and there are symptoms of uraemia or marked oedema, pilocarpine may be given hyperdermatically in doses of 1/10 to 1/6 of a grain. One must bear in mind two points in regard to the use of this drug; one is that it is a heart depressant and if necessary strychnine should be used with it; and the other is that it causes a free secretion into the bronchial tubes and in oedema of the lungs the result may be disastrous. The salines are the best purgatives to use as they do not irritate the kidneys. Epsom or Rochelle salts are usually efficacious. Compound Jalap powder is also a safe and efficient hydrogouge cathartic. A most powerful aid in stimulating the action of the skin and kidneys is the use of a normal salt solution, given either subcutaneously or injected well into the rectum. Punctures in the skin or the use of Southey's tubes are measures indicated only in cases of marked oedema not relieved by the means already mentioned.

Pericardial and pleuritic effusions increase the danger of renal dropsy and aspiration is sometimes imperative. For the relief of pain, suppression and haematuria, counter-irritation to the back by cupping or the Paquelin cautery or the use of hot applications are the methods commonly employed. Convulsions depending upon uraemia are to be treated by active elimination. Saline solution and hot packs are indicated. Chloroform may be used to control the convulsive seizures. In suitable cases, bleeding to

the extent of one or two pints is of aid. For obtaining quick and active purgation, elaterium or croton oil may be resorted to.

After the kidneys have started to secrete freely, farinacious food may be gradually added, followed by the return to simple vegetables and mild fruits. It is best to withhold eggs, meat and alcoholic stimulants until the urine is free from albumen.

We have no reliable remedy for a persistent albuminuria. Anaemia is usually present and during convalesence a bitter tonic and iron is indicated. It has been my custom to use Basham's mixture at this time. The general improvement in the condition of the patient, especially in that of the blood, may exert a favorable influence over the albuminuria. Patients who have been through an attack of acute nephritis should be cautioned about their eating and warned about sudden changes of temperature. The urine should be examined at intervals for at least a year following the attack. Subacute attacks of nephritis occurring in the course of a chronic trouble should be treated along the lines already laid down.

Chronic Bright's disease is classified under two general heads, chronic parenchymatous nephritis and chronic interstitial nephritis. The first form usually, but not invariably, follows an attack of acute nephritis. In parenchymatous nephritis, care should be taken in regard to the diet, but it is hardly practicable to limit the patient to milk. It is quite generally believed that a moderate amount of good wholesome food is necessary. The skin and bowels should be kept in an active condition. As the urine is usually diminished in quantity and the amount of solids excreted also diminished, attention should be paid to this. Water in liberal amounts should be taken and in conditions calling for a more active diuresis the cardio-vascular diuretics are perhaps the most useful. It sometimes happens that when you most need the action of a diuretic in chronic Bright's disease it fails. The infusion of digitalis itself or combined with acetate of potash is usually effective and diuretin has within recent years gained considerable prominence. In this form of nephritis with anaemia, iron is well tolerated. Complications which arise in the course of the disease are to be treated as in a case of acute nephritis.

In chronic interstitial nephritis, coming on as it usually does in a slow and insidious manner, the treatment is more hygienic and dietetic than medicinal, the fewer drugs the better. The disease usually manifests itself about middle life or later, but it is sometimes present in young people and even in children. In families with an hereditary history of the disease or with a tendency toward an early degeneration of the arteries, there should be such regulation of habits of living as to subject the kidneys and circulatory apparatus to a minimum amount of work. This is a disease in which preventive measures play a most important part. Too much work thrown upon the kidneys is at the bottom of the trouble.

When we consider that most of us eat 30 or 40 per cent. more than we need and that the kidneys are called upon for an excessive amount of functional activity, we can readily understand that such changes may take place as will result in interstitial nephritis. A large amount of nitrogenous food with accompanying sedentary habits tends to the establishment of this disease. Overwork, worry and mental strain are causative factors. Alcohol, syphilis and a few other toxic elements may be considered responsible for chronic Bright's. As a prophylactic

measure in suspected cases it is best to cut down the quantity of the proteids. Butcher's meat should be sparingly used and limited to one meal a day. Fish and poultry are allowable as affording a change in diet. Peas and beans are best left alone. Sugars and starches should be restricted, especially when there is a tendency to obesity. Alcohol and tobacco should be interdicted. Exercise proportionate to the individual case should be prescribed; it is harmful for such cases to take exercise of so violent a nature as to produce fatigue.

The ability to adjust habits to the changes of advancing years, as the regulation of diet, exercise, fresh air and outdoor life, are the keynotes in the prophylaxis.

No doubt there is an early stage of the disease in which it is difficult to make a diagnosis, but I think it quite frequently happens that the physician does not recognize the trouble when decided symptoms are present. Careful examination of the urine and a proper appreciation in the changes of the heart and blood vessels will lead to earlier diagnosis. There has been a tendency to rely too much upon the examination of a single sample of urine, too little importance being attached to the small amount of albumen usually present. We should remember that there is no relation between the amount of albumen present in the urine and the extent of the kidney involvement. In suspected cases make repeated examinations of the 24 hours' sample of urine. An increased quantity of a low specific gravity, containing a small amount of albumen, casts few in number and a deficiency in solids are the most important points to be noted in making a diagnosis. This condition of the urine is almost invariably accompanied by an increased arterial tension, with or without noticeable thickening of the arteries, hypertrophy of the left side of the heart and an accentuated aortic second sound.

If the disease is not diagnosed until after it is well established, the general rules referred to under prophylaxis are to be observed. Although it may be possible to restrict the use of proteid food, it is hardly practicable to cut down to milk alone. When we consider that people affected with chronic Bright's often live for years after the disease is discovered, we see that an adherence to a starvation diet of milk would become rather monotonous. Fats, vegetables, fruits and cereals allow a fairly wide range of diet. Woolen underclothing should be worn the whole year. In regard to the influence of climate it is said that there should be as little cold, moisture and variation in the temperature as possible; that a hot, dry climate is better than a cold, dry climate. The states in our country most unfavorable for patients suffering from kidney disease are New Jersey, New York, Massachusetts, New Hampshire, and Vermont, and the most favorable are Tennessee, Georgia, Nebraska, North Carolina, Arkansas, Texas and certain parts of southern California. The condition of the heart naturally influences the selection of a climate for those seeking relief from kidney trouble. In many cases symptoms arising from the vascular system gives us most concern. In the treatment of Bright's disease we should not regard it as purely a renal trouble and lose sight of other important organs. The state of the kidneys is often the last thing to attract the patient's attention. Many people die from cerebral hemorrhage, cardiac trouble or some other complication arising from chronic nephritis without the correct diagnosis being made. Aside from the

polyuria, coming on as it does in a gradual manner, there is little if anything to direct his attention to his kidneys.

The medicinal treatment should be restricted to the indications as they arise; we have no remedy which will influence interstitial changes in the kidney although potassium iodide and mercury given in small doses over a long period of time are reported to act in a curative manner. With a tense pulse, cardiac hypertrophy, vertigo and headache, iodide of potassium or nitroglycerin will give good results. Under a strict non-nitrogenous diet with free catharsis, cardiac hypertrophy will often be diminished (Purdy). As long as the vascular tone is good the heart does its work and there is little trouble, although the kidneys may be badly damaged. When the heart begins to fail on account of degenerative muscle changes, dilation occurs, the valves begin to leak and tension is reduced. Under these conditions digitalis and strychnine are the drugs to be relied upon. Rest in bed should be strictly enforced. The gradual introduction of cardiac gymnastics according to Schott and the Nauheim baths are beneficial in restoring to some extent the tone of the heart.

Gastro-intestinal, nervous manifestations and other complications are to be treated in the simplest way possible.

Within the last three or four years surgery has been resorted to in the treatment of chronic Bright's. To Dr. Edebohls belongs the credit of being the first to employ surgical means for the relief of sufferers from chronic interstitial nephritis. The results obtained in a series of cases from peeling off the capsule and puncturing the kidney have been encouraging, and apparent cures have resulted.

DISCUSSION.

GEORGE DOCK, ANN ARBOR.

I think when Dr. Clark says that he finds functional albuminuria more common than organic albuminuria he opens the way for a certain amount of error. It seems to me that the profession has wisely withdrawn from the early position of Ralfe and others, according to whom many cases of albuminuria were to be called functional. If by functional we mean that the disease is not going to cause permanent damage to the kidney, of course that is quite proper. In the same way we might say that bronchitis was a functional disease because the lung is not permanently damaged, and yet a man may have severe and even dangerous disease in his bronchial mucous membrane; so may a patient have a severe disease in his kidneys without causing fatal or even permanent severe disease in those organs. But at the time that such an albuminuria occurs I think it is rarely safe to say that the patient merely has a functional and ergo harmless albuminuria. I do not think Dr. Clark meant that, but the reiteration of the old statement of Ralfe is certainly calculated to tend to that opinion.

It is certain that many cases occur in which we find not only albumen, but also casts, in which there is very little damage to the kidney. Dr. Clark has mentioned cases following exercise. Those are the most striking cases one can see. In a man, especially one not a regular athlete, but a man who suddenly undertakes unusual exercise, for example, the untrained man taking a long, hard bicycle ride, we can get sometimes a good deal of albumen and sometimes the most beautiful casts, and many of them, that we ever see, and yet those patients (and some of them I have followed for a number of years) never have a serious kidney symptom. On the other hand, we see the same sort of symptoms, namely albuminuria and casts, in varying quantity, in patients with certain diseases, especially of the toxic kind such as Dr. Clark mentioned—cases of typhoid, of pneumonia and erysipelas, and, in fact, one might say any of the acute infections.

Now I think it is a great mistake if we speak of the changes in these cases as cases of nephritis, and I try very hard in my teaching and practice to avoid that. It seems to me rather unfortunate that writers have not followed the hint given many years ago by Weigert, and followed ever since then by Ziegler in his text book, according to which we should speak of these not as cases of inflammation of the kidney, but as cases of degeneration of the kidney. There are cases very

often merely of degeneration of the kidney epithelium, in which the albuminuria and cast are very striking, especially the casts, not so much the albuminuria usually, and yet usually the patients recover from those conditions; one can see them after very trifling fever, sometimes the acute anomolous fevers that last only two or three days, sometimes very strikingly in pneumonia and typhoid fever. And yet I think that in the acute stages we are not always able to say whether these conditions really are mild; we usually find that they are mild and yet it seems to me that we make a great mistake in those cases if we do not daily examine the urine microscopically and chemically, and if we do not also have the urine measured so as to give an accurate idea of the total quantity excreted, and one may even go further and examine for urea, solids, etc., for in some of these cases one can find uremia developing very suddenly, and in some other cases we find secondary changes coming on after a long period. It rarely happens that uremia comes on in typhoid fever as a result of the kidney alteration, and yet it sometimes does and a patient may go into a dangerous or even fatal condition before one expects it, if the urine has not been examined. Such a patient may have urine very much like the urine we get in scarlet fever. After typhoid it does not so often happen that we get late changes in the kidney following such infections or intoxication; in scarlet fever we more frequently get it. How often we see cases developing symptoms of chronic interstitial nephritis, between 20 and 30 years of age, where there is no history at all that can account for it except the history of scarlet fever in early life. So that in either of those events, whether from a mild infection, for example from typhoid, pneumonia, or after scarlet fever, I think it is useful to advise the patient to have his urine carefully examined at least once a year, better twice a year, and to have a careful examination made of the whole quantity for twenty-four hours, or if there are reasons for expecting a severe change in the kidney, to have a number of tests made through several days at such periods.

It seems to me important to remember, and it is rather difficult to do so, how variable the changes are in different parts of a single kidney and how the different parts may be impossible of distinction by the ordinary clinical signs. I was glad that Dr. Clark laid stress on the necessity of a complete examination of all patients suspected of kidney disease. Nothing would be more untimely now than to base one's diagnosis of a kidney disease merely on an examination of the urine, no matter how complete or how careful, using the most complicated methods. The examination of the whole patient, especially of his circulatory organs, of his serous membranes, of his stomach, of his eyes, of his brain, in various ways, all these are extremely important, and, in fact, essential. It is only by such careful examinations that one can hit at all on a safe prognosis in certain cases in which the urine is not at ali a safe guide. Perhaps a brief allusion to a couple of cases that have come under my observation lately may make my idea clearer. I have in mind a man beyond middle age, who, to my knowledge, for four years has constantly had, whenever I have examined his urine, a number of times a year, a considerable quantity of albumen, that is, about one-fourth on standing, after boiling and adding nitric acid sometimes as much as a half, who always has large numbers of casts of all kinds, largely hyaline, with or without granules, and always with a few casts containing epithelial cells and sometimes leukocytes, sometimes blood; this patient, however, has no other symptoms at all, he is able to do a great deal of work, he only has exacerbations as a result of overwork, especially combined with slight excess, perhaps, in the use of alcoholic drinks; and yet only the day before I left home I had a letter in regard to a patient who has an exactly similar urine, who has been under my observation only a few months, and who has changes in his eye ground, in contrast to the other patient who had no eye changes, such as Dr. Parker has described. In this case I made a bad prognosis, based on the existence of albuminuric retinitis, for my experience in such case is that it usually ends within a year after the changes in the retina are found, frequently within six months, and yet in this case, after sending the patient south for the winter, I heard only the day before I left home that he was apparently in a hopeless condition. [He died a few days after the meeting.]

In another case, where the urine was so much like the one I first mentioned that as I examined them one time on the same day, it was impossible to tell under the microscope which was which—the patient had heart symptoms, along with his urinary symptoms, and his general condition was distinctly cachectic; he had among other things an old sinus which occasionally suppurated, and the question was asked whether it was safe to treat this radically, and especially whether it was safe to treat it with strong antiseptics. I advised the patient and his physician to treat the case as mildly as possible, and counseled especially against salicylic acid, which had been used as an internal antiseptic; however, the patient was put on large doses of salicylate of sodium for the purpose of

quickly healing up the sinus, and whether as a result of that, or as merely a coincidence—at any rate it struck me as being rather instructive—the patient died very quickly.

In regard to the methods of testing for albumen, I would like merely to reiterate Dr. Clark's statement that practice in the use of a safe method is the best thing. There are hundreds of methods, many of them are good, a great many of them are not very good, but given a fairly good method, the most important thing is to have practice in the use of that method. And I know of nothing more instructive than to take a couple of hours to the testing of a specimen of albuminous urine, and especially by making various dilutions. As regards the overlying tests, the instrument that Dr. Clark has shown is no doubt very useful. I would like to point out, however, that a simple, ordinary straight glass tube is just about as good, in my opinion. One simply gets a few drops of urine in the tube in the ordinary method, then after carefully washing off the outside of the tube, so as not to contaminate the nitric acid, allowing the nitric acid to run up by having the nitric acid bottle rather full, and in that way getting a small column, a narrow column and one that shows the difference very well. With practice one can recognize the different kinds of rings very accurately. And in addition to the matter of heating the tube for the detection of urates, I would like to add that microscopical examination, by simply dropping out the ring on the slide, is very often also of a good deal of assistance, especially in distinguishing between the alkaloidal precipitates and urea, or uric acid.

In regard to the treatment of kidney disease, Dr. Whinery's summary was extremely sensible and full. The chief thing is to treat the patient; there is no treatment, of course, for any of the forms of kidney disease, the thing to treat is the individual, and how to treat him you can only tell after examining thoroughly all the features of the case. I would like to protest, however, against the idea that Edebohls or anybody else who advises operations for the cure of kidney disease has yet proved his point. It seems to me if you will read Edebohls' article carefully you will have a good deal of difficulty in convincing yourselves that the diagnoses were always right, and how anybody can be sure that he has cured a kidney disease within a few months after finding the patient recovering from an operation, is something I have not been able to discover from anything I can find out clinically or anatomically about alterations of the kidney. That slitting the capsule may improve the circulation in the kidney, I do not at all doubt, and I might be willing to recommend such an operation, although I have not found the patient in whom I thought it was necessary; but that one can predict that such cases can be cured, it seems to me we are by no means able to say. And it seems to me rather interesting to observe that this new discovery in surgery is coming on just at a time when a conservative wave is striking the surgeons in regard to many other border line cases; they are operating on fewer appendicitis cases than they were a few years ago, and apparently a new field opens itself up in the way of the kidney disease. I would suggest that we go rather slowly in recommending our patients to leave our medical care and take up surgical care for the correction of those kidney diseases.

J. H. REED, BATTLE CREEK.

I am in perfect accord with the principal points made by all three of those gentlemen in regard to the peculiar complications as well as the treatment of kidney diseases. Yet in looking at our program, I find that the Symposium is on the diseases of the kidneys, and in hearing the papers that I have to-day I find that everything is devoted altogether to nephritis or Bright's disease. Those among you who know me know that I have devoted a great deal of attention to the treatment of diabetes, but though diabetes has not been touched upon, I have come prepared to give a little dissertation upon that subject. However, I wish to accentuate as much as I can what has been said by Prof. Dock. He has made one very important point, and that is this, that it is utterly impossible to treat any case of kidney disease by a stereotyped rule; you have got to treat the patient himself according to the physiological conditions. In addition to that I think it was Dr. Neff who spoke of one of the peculiar conditions in nephritis as cardiac hypertrophy. In my experience in the treatment of both diseases, diabetes and Bright's disease, I find that there are two conditions which are almost universally found: one is neurasthenia and the other cardiac hypertrophy; in almost every other condition of both of those diseases they are almost directly opposite.

Dr. Neff also, I think, made the statement that convulsions generally always followed a state of coma in nephritis. That has not been my observation; I always find that coma follows the convulsion, not convulsion the coma.

In addition to this I want to lay stress upon what Prof. Dock has said, as well as what Dr. Neff has said, in regard to urine analysis. Too much attention cannot be paid to making correct urine analysis. I not only subject my patients to

a very careful physical examination, but I have the urine from every micturition; if I have ten, fifteen, or twenty micturitions in the course of twenty-four hours, I examine every one of them, and I not only examine them physically, chemically, microscopically and morphologically, but I try as near as I can to find out just exactly what is the condition and treat them accordingly, and in that way have had some considerable success. I have just recently read a paper before the association in Saratoga, in which I laid down my line of treatment and showed how I have somewhat either progressed or migrated, as you might term it, from the usual line of treatment, which I have heretofore followed and which Prof. Dock has heard me speak of before the Kalamazoo Academy of Medicine a year and a half or two years ago.

I now find in the treatment of diabetes that the liver is more involved, or as much involved, as the kidney, and I treat accordingly.

Another point made by Dr. Neff was that he spoke of transitory albuminuria. That is a case that I have never yet found. I find transitory glycosuria or I find cyclic albuminuria. The distinction and differentiation, according to my standpoint, consists in this, in diabetes we may find a transitory glycosuria, where we have sugar to-day, and may not have to-morrow, and the second or third day, and then the fourth or fifth day it may return, and in albuminuria we may have the presence of albumen in the morning, and it may be entirely absent at noon, and may be present in the afternoon, and here it is that the term cyclic albuminuria is applied in such cases.

The treatment in regard to these cases is as Prof. Dock has said, and as Dr. Neff has said; it consists not only in great care as to clothing and exercise, but a strict diet, as little medicine given as possible, but where medicine is indicated there is nothing in the world to take its place. Dr. Neff spoke of the different alkalines which he used to loosen the bowels, but did not mention one which I have very frequently used, phosphate of sodium, from which I have received very much more pleasure and comfort in the treatment of my cases than almost anything else. Sometimes, however, where there is a very decided hepatic condition, I use the old hepatic pills of aloin, belladonna, strychnine and ipecac in combination.

V. C. VAUGHAN, ANN ARBOR.

Chronic nephritis may be induced in animals in the experimental laboratory by administering gradually increased doses of chromate of potash, and it has been found that the blood serum of animals thus treated is poisonous to other animals. This suggests that the chromate of potash disintegrates the kidney cells and that poisons are formed in this way. We may possibly find the true factors of uremia by following along lines suggested by these experiments.

H. M. KING, GRAND RAPIDS.

I should like to call attention to one clinical manifestation of arterial capillary fibrosis, as it appears in a chronic nephritis, which has not been touched upon to-day. It may not, however, have any very great importance. It has occurred in my practice two or three times, among public speakers and singers, and in one case in an actor, all of them having lived rather strenuous lives, using their voices of course as a daily occupation. In all cases the first symptom of which they complained was due to an œdematous laryngitis, very mild, and which was attributed to an acute cold, which had been allowed to go on unattended for quite a long time. In all of these cases there was cardiac hypertrophy, without, however, any œdematous condition otherwise in the body than this in the larynx. One of these cases, after my diagnosis, succeeded in passing an examination for life insurance in one of the large eastern companies, and in the examination was subjected to an urinalysis of a twenty-four hour specimen. I merely mention this to show that in one case at least there were no urinary manifestations which were noticed on the examination, although there was at the time of my examination a polyuria. The other two cases presented marked urinary symptoms, and of course could have been diagnosed long before they were, but the attention of the patient had not been called to the condition except through the laryngial symptoms.

MORTIMER WILLSON, PORT HURON.

I would like to ask Dr. Vaughan for information as to how he determines that the toxic material in this rabbit's blood is from the breaking down of the kidney cell, or from the lack of elimination.

Dr. Vaughan: The cells are broken down; of course we see that with the microscope. And then the determination of the urea, uric acid, etc., in the blood serum shows that there is no large accumulation, no more than is normal.

Dr. Willson: It is known, of course, that urea alone does not cause what are generally known as uræmic symptoms.

Dr. Vaughan: Yes, that is true, that is known.

Dr. Willson: The question in my mind was, how to determine whether this was the product

of the broken down renal cells, or whether it was lack of elimination of some poison unknown.

Dr. Vaughan: We have tried to do this and stopped elimination, and we didn't get this result. This would be the answer to that question.

Dr. Wilson: There is another point I wish to speak on a moment. I think it is a good thing in medicine to be an optimist, and I do not feel in regard to Dr. Edebohls' experiments, as you might call them, surgically, in these cases as one of the speakers does. Certainly quite a remarkable series of cases with very remarkable results is reported, and for myself, from what I know of the gentleman, I should be fairly convinced that he is capable of making a diagnosis, and so I think that I would not close the door of hope in that direction. We know how hopeless medicine and hygiene sometimes are in these cases; in fact, in most of them when they reach a certain stage, and I think it well worth while to keep this other avenue in view.

JOHN E. CLARK, DETROIT.

Dr. Dock's distinction between functional and organic affections of the kidney is to me very satisfactory. It has long been a matter of doubt in the mind of the profession as to whether there can be such a thing as "functional albuminuria." By this I understand a perverted function resulting in albuminuria, the condition not characterized by any change in structure; perhaps the majority of writers insist that there cannot be an exhibition of albumen in the urine without some change in structure, be it permanent or but temporary; while others contend our every-day experience goes to demonstrate that organic change does not occur on every exhibition of albumen in the urine.

Some time ago a theory was advanced by Ludwig which explains the establishment of the name, "functional albuminuria." The theory encourages such terms as "functional albuminuria," in that it accounts for albumen in the urine by pressure, which forces it through the membrane. This in brief is Ludwig's theory, and I believe there is still a certain amount of truth in that theory, although it has been shown conclusively that this in itself is not sufficient to account for what w call or what is called by a great many writers, "funcitional albuminuria."

In regard to the new treatment for interstitial and parenchymatous nephritis, the so-called Edebohls treatment, this is something that has been known for a good many years. I believe the first man who introduced this puncture in the United States, some few years ago, was Edward Anderson; previous to that, Israel of Berlin had operated on a number of cases of nephroplexy, and had found that this operation, which was not conducted for the purpose of treating parenchymatous or interstitial nephritis (puncture of the kidney membrane) did result in the removal of albumen from the urine and also the disappearance of casts. But I agree most emphatically with Dr. Dock that the use of the operation at present is something that should be attempted with a great deal of caution; the point is simply that the diagnosis of interstitial nephritis or even the large kidney is in a great many cases almost impossible. Some of you may remember a celebrated paper, or a very able paper, read at the Pan-American congress, in which the writer, I forget his name now, drew attention to the fact that you may have casts, you may have albuminuria, you may have vertigo, you may have uremia, you may have cardiac complications, and although you may have nearly all the symptoms, you do not have, as you would assume, a pathologic kidney. It has been shown time and time again in the autopsies following deaths from supposed kidney disease, that the kidneys were intact and that a mistake in the diagnosis had been made. This new operation should be most carefully looked into by the practitioner before he recommends his patient into the hands of a surgeon for this treatment, and satisfactory results in operations made for *chronic nephritis* must be obtained in many instances before it receives the endorsement of the practitioner at large.

HILLSDALE COUNTY MEDICAL SOCIETY.

THE JOURNAL is pleased to report a most satisfactory and successful meeting of the physicians of Hillsdale County, held at Hillsdale on August 27th. Through the active efforts of Dr. Bulson, president of the State Society, Dr. Haughey, secretary of the Council, Dr. Hafford, Dr. Whelan, and Dr. Sawyer, and with the hearty co-operation of the medical men of the county, the Hillsdale County Medical Society was organized. Dr. Whelan was elected president; a constitution and by-laws in conformity with the state organization, were adopted. Application was at once made to the State Society for a charter, and the charter has been granted.

The Journal of the Michigan State Medical Society

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A. P. BIDDLE, M. D., Detroit.....Editor | S. EDWARD SANDERSON, M.D., Detroit, Bus. Mgr.

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Application Made at the Postoffice, Detroit, Mich., for Entry as Second-class Matter.

DETROIT, SEPTEMBER, 1902

THE PORT HURON MEETING.

The last annual meeting of the Society marks a period of progress in its history. For years leading members of the profession have seen the necessity and advantages of organization, that so large a body as the medical profession might wield the influence its interests demand. It is, however, only within the last two years that the American Medical Association has been able to adopt and to urge upon other societies practical methods. It is not necessary here to enumerate the means it has adopted to govern its own body; but for the benefit of those who were not at the meeting at Port Huron it may be well to state that the National Association submitted to the State Associations a common plan of organization, which in substance urged the formation of the county societies, and placed the management of the affairs of the State Society in the hands of delegates elected pro rata by the county societies. Early during his presidential term, Dr. Connor appointed a committee on reorganization, consisting of Drs. A. E. Bulson, George Dock, and Charles T. McClintock, to consider the subject, and these members, after making changes to conform to our needs, submitted the proposed constitution and by-laws for the consideration of the Society. The spirit of organization was, however, already abroad and in this spirit, animated by the able address of the President and fascinated by the genial presence of that gentleman of Kentucky,

Dr. J. N. McCormack, of Bowling Green, the chairman of the committee on organization of the American Medical Association, it unanimously adopted the constitution and by-laws; wisely, however, continuing its committee on reorganization and instructing it to revise the same, its revisions to have the force of immediate effect. Realizing that this work has just begun, the Society elected as its President the chairman of the committee, Dr. A. E. Bulson, of Jackson.

And from every other point the meeting was a success. The papers, discussions and general interest compare favorably with other years and never has there been recorded a greater attendance.

Detroit was chosen as the next place of meeting, and the date has been fixed at June 11 and 12, 1903.

THE JOURNAL.

It is not necessary to enumerate the many advantages of a monthly journal over the annual transactions for a place of record of the doings of the Society. One of the principal ones, however, will be the opportunity it affords to the officers of the Society to come into more intimate and frequent touch with the members, and to the members to present their views, for we wish it understood that we invite to its columns all honestly expressed criticisms. THE JOURNAL is the official organ of the State and County Societies, and we expect soon to have it the record place for the proceedings of the component societies. We invite correspondence on any matter of common interest.

The annual dues cover the subscription to THE JOURNAL.

We enter the field of journalism simply as a better ground to plant the seeds of common interests and to reap the benefit of closer acquaintance. We enter with no feeling of rivalry nor competition, and to those journals already here, which have in the past graciously recorded the doings of the Society, we express our sincere wishes for their continued success.

THE REVISION OF THE CONSTITUTION AND BY-LAWS.

Well realizing that, while the constitution and by-laws adopted at the Port Huron meeting formed a good working basis and offered encouragement to the officers of the Society to continue their work for the organization of the medical profession of the State, they must contain many features which might be improved upon, the Society wisely empowered the committee on reorganization to revise the same as it deemed best, such revisions to form part of the constitution and by-laws and to have immediate effect. Many changes have been made, the ones to meet probably with popular approval being the reduction of the annual dues to $2.00, payable through the county society, and the election of the president by the society as a whole. Other changes are made to insure a better business management of its affairs. The finances and the conduct of THE JOURNAL are placed in the hands of the Council, practically a permanent body. Being responsible for their work, the selection of the secretary and the treasurer is also placed in its hands.

THE COUNCIL.

By the new order of things, the Society entrusts the work of organization throughout the State in the hands of twelve councilors, one from each Congres-

sional District. These members, carefully selected by a special committee, have entered upon their work with an enthusiasm and an earnestness which promise well for the success of their labors. On July 10th the Council met with the other officers of the Society in Detroit, organized and outlined the work of the year. It elected as its chairman the retiring president, Dr. Leartus Connor, to whom more than to any one else belongs the credit of putting into working force the new order of things; and as its secretary, Dr. W. H. Haughey, of Battle Creek, another enthusiastic, indefatigable worker.

Two councilors are elected every year to serve for six years. To these men is given all power and to them will be the credit of success. To the individual councilor is given the supervision of his own district, and to him must the County Society apply for instruction. That the Society may have the benefit of the work and the counsel of all its officers, the vice-presidents will aid the councilors in their duties.

THE COUNTY SOCIETIES.

The primary object of the organization of the medical profession of the United States is to get every practitioner of medicine in good standing interested in medical matters. It is believed that the best way to do this is to go into every county and to organize there a society which must be within reaching distance of every practitioner, and so the county society becomes the center of interest, and as rapidly as it can be done one will be organized in every county where there are a sufficient number of physicians.

A county society, when chartered, becomes a component part of the State Society and is directly interested in the State and every other county society.

The primary steps for the formation of these societies have already been made.

On August 8th Calhoun County was granted a charter, the first to be issued by the State Society.

As but one county society can be chartered in each county, the physicians of Wayne County met in Detroit on July 25th, under a call of a joint meeting of the Detroit Medical Society and the Wayne County Medical Society. Here the members of the societies listened to the remarks of the President of the State Society, Dr. Bulson, and to an able address on organization by Dr. P. Maxwell Foshay, of Cleveland, a member of the committee on organization of the American Medical Association. After some other remarks the Detroit Medical Society graciously yielded to the Wayne County Medical Society. The latter has already taken into its membership all the members in good standing of the Detroit Medical Society, has amended its constitution and by-laws to meet the requirements of its new relationship to the State Society, and has been granted a charter. Wayne County presents to the State Society a united profession. May the other counties quickly do likewise!

Many county societies have been in affiliation with the State Society for a number of years. In most of these the annual meeting will take place during the month of September or October, a meeting which is usually well attended. It is urged upon the officers of these societies to make a special effort to secure as large an attendance as possible, to explain to the members the plan of organization, and to amend their constitution and by-laws to meet the requirements of the State Society. These

requirements in no way interfere with the fundamental principles of organization, but simply bring the county society into closer relationship with the State and facilitate the transaction of business. That the county societies may adopt a uniform plan, the committee on organization of the American Medical Association submitted a constitution and by-laws for their consideration. (See *Journal of the A. M. A.*, August 9, 1902, page 315.)

MEMBERSHIP.

It is now probably well understood that membership in his county society entitles one to membership in his State Society and in the American Medical Association, and that no one can be a member of the National Association unless he be a member of his State Society, or a member of the latter unless he be a member of his county society. It is, therefore, sincerely urged upon every member to extend every aid to the councilor of his district in the formation of the county societies.

The annual dues of the State and County Societies are paid to the County Society, and to the latter the State Society looks for its assessment.

THE PRESIDENT'S ADDRESS.

Dr. Connor's address, which will appear in the first two issues of THE JOURNAL, is well worth the careful perusal of every physician in Michigan. Its consideration of the early history of the medical profession of the State is interesting and instructive. Its clear exponent of the needs of the Society paved the way for the adoption of the constitution and by-laws at the Port Huron meeting.

Communications

Battle Creek, Mich., Aug. 25, 1902.

The Editor:—

Permit me through the columns of THE JOURNAL to call attention of the profession to a means by which the members can materially aid the work of organization.

If every doctor in Michigan, in the counties in which organizations do not already exist, will constitute himself into a committee of one to organize a society in his county and to correspond with the Councilor of his District, who is in a position to give him valuable instructions, it will materially aid the Councilor in his work. Each Councilor District embraces several counties and it is manifestly impossible for the Councilor to visit each individual doctor of the District; but, if the doctors will correspond with the Councilors and acquaint them with the local needs and conditions, the Councilors can act intelligently and expeditiously.

When meetings are called to which Councilors are invited, it is *the plain duty of all medical men* nearby to attend the meeting. Lend aid by your presence. Encourage your Councilor that much.

Let us organize and occupy the honorable position in the minds of men that our professional attainments entitle us to. This can be best and most quickly accomplished by corresponding with *your Councilor* and with *each other*, calling meetings and organizing. Let us all work together.

I have sent out the following circular to the members of my District, which I submit as a suggestion to the other Councilors:

"As you are aware, the Michigan State Medical Society at its recent meeting at Port Huron adopted a plan of reorganization along lines mapped out by the American Medical Association, and elected a Board of Councilors to carry on the work.

"At a subsequent meeting of the Board of Councilors, held in Detroit, July 10th last, it was decided that membership in the county society carries with it membership in the State Society, the dues for which are $2.00 per year in addition to dues to the county society, and secures for its members THE JOURNAL of the Michigan State Medical Society, issued monthly, also eligibility to membership in the American Medical Association. State dues to be paid to the Secretary of the County Society.

"To more thoroughly explain the above-named plan in all its features, the Councilor for your District, the President and Secretary of the State Society, together with several other prominent members of the profession in Michigan, will be at the courthouse in..... at 1:30 P. M..... .....1902, when they hope to meet all the eligible medical gentlemen of..... .....County with a view of establishing, or reorganizing if already established, a County Medical Society in affiliation with the State Medical Society.

"You are earnestly requested to be present at this meeting, as matters of great importance to the profession will be discussed and fully explained."

W. H. HAUGHEY, M. D.,
Councilor for the Third District and Secretary of Council.